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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/564,422	01/11/2006	Saul R. Dooley	GB 030113	8967

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NXP, B.V.
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M/S41-SJ
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EXAMINER

DSOUZA, JOSEPH FRANCIS A

ART UNIT	PAPER NUMBER
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2611

NOTIFICATION DATE	DELIVERY MODE
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04/28/2009

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	10/564,422	DOOLEY ET AL.	
	Examiner	Art Unit	
	ADOLF DSOUZA	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 29 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1 - 13 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 January 2009 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Arguments

1. Applicant's response to the objection to the Abstract, 112 (1st paragraph) rejection and 101 rejection has been accepted by the Examiner.
2. Applicant's arguments filed 1/29/2009 have been fully considered but they are not persuasive.
 - a) Argument: Applicant argued that Medlock does not disclose word based processing to obtain a correlation value, one bit at a time is processed, and that multiple bits are not processed at the same time (Remarks 1/29/2009, page 12, 3rd paragraph).

Response: Examiner respectfully disagrees. Medlock clearly states in [0043] (lines 7-9) that the bits can be processed (i.e. multiplied) in parallel.
 - b) Applicant's new drawings (1/29/2009) have not been accepted by the Examiner (see below).

Priority

3. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the limitations in all claims must be shown or the feature(s) canceled from the claim(s). The drawing

Art Unit: 2611

submitted on 1/29/2009 does not show all the claimed subject matter. For example, the drawings do not show any word based correlation being performed. This is the main feature of the invention and is not shown in any of the drawings. No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 2611

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1 – 2, 4, 6 – 7, 9, 11 - 13 are rejected under 35 U.S.C. 102(b) as being anticipated by Medlock (US 20010048713).

Regarding claim 1, Medlock discloses a method of correlating a sampled direct sequence spread spectrum signal with a locally provided replica signal containing a spreading code (Fig. 2A, input data 208 correlated with code sequence 210; Abstract, last 4 lines; Fig. 4A, block 4008; [0008]; wherein the local replica is the code sequence 210) the method comprising:

combining the bit or bits of at least two signal samples of the received signal to form a first word ([0029]; Fig. 2A, element 203a; wherein the combination of bits of the samples is the bit slices);

providing a second word containing bits corresponding to the replica signal ([0030]; Fig. 2A, element 202a; wherein the second word is formed from the local code sequence);

and executing one or more software based instructions to carry out word based hardwired operations to process the first and second words in order to obtain a correlation value (Fig. 2A; [0028] - [0029] which disclose the correlation is calculated; [0043], lines 7 – 9, which disclose word based operations, where the word based operations are the multiplications being performed in parallel).

Art Unit: 2611

Regarding claim 2, Medlock discloses the processing of the first and second words is done using hardwired circuitry ([0002], sentence starting with “Consequently, each application ...”).

Regarding claim 4, Medlock discloses a software based instruction is executed to form the first word ([0002], sentence starting with “Consequently, each application ...”).

Claims 6-7 and 9 are directed to apparatus of the same subject matter claimed in method/steps claims 1-2 and 4 respectively and therefore, are rejected as explained in the rejections of claims 1-2 and 4 above.

Regarding claim 11, Medlock discloses a direct sequence spread spectrum signal receiver comprising an antenna and an RF front-end including an analogue to digital converter for receiving spread spectrum signals and outputting corresponding signal samples; and a signal processor (Fig. 1, element 101, 103, 106a; [0023]).

Regarding claim 12, Medlock discloses a computer-readable storage medium having recorded thereon data containing instructions for performing a method according to claim 1 ([0058]; wherein the storage medium is the computer which has memory or the digital system memory).

Regarding claim 13, Medlock discloses a computer program comprising instructions for performing a method according to claim 1 ([0002] which disclose the application may utilize software i.e. computer program).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 3, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medlock (US 20010048713) in view of Laudel et al. (US 6,657,986).

Regarding claim 3, Medlock does not disclose the correlation is done using an XOR operation.

In the same field of endeavor, however, Laudel discloses the processing of the first and second words includes a word based XOR operation or its inverse and a summation of the results of that operation (column 4, lines 35 - 46).

Therefore it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use the XOR method of calculating correlations, as taught by Laudel, in the system of Medlock because this would result in simplified hardware, as is well known in the art.

Art Unit: 2611

Claim 8 is directed to apparatus of the same subject matter claimed in method/steps claim 3 and therefore, is rejected as explained in the rejection of claim 3 above.

9. Claims 5, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Medlock (US 20010048713) in view of Harrison et al. (US 5,982,811).

Regarding claim 5, Medlock does not disclose combining the sign bits, combining the magnitude bits and calculating the correlation value.

In the same field of endeavor, however, Harrison discloses each sample of the spread spectrum signal contains at least one magnitude bit and a sign bit; wherein the first word is formed by combining the magnitude bit or bits of at least two signal samples; wherein a third word is formed by combining the sign bit of at least two signal samples; and wherein one or more software based instructions are executed to process the first, second and third words in order to obtain a correlation value (Fig. 8; column 15, lines 8 – 20; wherein the combination is done because of the columnar fashion arrangement of bits).

Therefore it would have been obvious to one having ordinary skill in the art, at the time the invention was made, to use the method as disclosed by Harrison, in the system of Medlock because this would result in simplified hardware, as disclosed by Harrison.

Other Prior Art Cited

10. The prior art made of record and not relied upon is considered pertinent to the applicant's disclosure.

The following patents are cited to further show the state of the art with respect to correlation in spread spectrum receivers:

Linksy et al (US 20040213143) discloses correlation calculation in a receiver.

Snell et al. (US RE40231) discloses a high data spread spectrum transceiver and associated methods.

Rabaeijs et al. (US 6,967,992) discloses a method and apparatus for receiving GPS/GLONASS signals.

Akopian (US 6,735,243) discloses a method, apparatus and system for fast acquisition of a spread spectrum signal.

Conclusion

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ADOLF DSOUZA whose telephone number is (571)272-1043. The examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Payne can be reached on 571-272-3024. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2611

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Adolf DSouza
Examiner
Art Unit 2611

AD

/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611